



34506104.ST25.txt  
SEQUENCE LISTING

<110> Niles, Andrew  
Maffitt, Mark  
Haak-Frendscho, Mary

<120> RECOMBINANT PROTEOLYTIC TRYPTASES, ACTIVE SITE MUTANTS THEREOF, AND METHODS OF MAKING SAME

<130> 34506.104

<140> 09/598,982  
<141> 2000-06-21

<150> 09/079,970  
<151> 1998-04-15

<160> 52

<170> PatentIn version 3.1

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<213> Homo sapiens

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agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Ser	96
20 25 30	
ctc atc cac ccc cag tgg gtg ctg acc gca gcg cac tgc gtg gga ccg Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro	144
35 40 45	
gac gtc aag gat ctg gcc ctc agg gtg caa ctg cgg gag cag cac Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His	192
50 55 60	
ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His	240
65 70 75 80	
cca cag ttc tac acc gcc cag atc gga gcg gac atc gcc ctg ctg gag Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu	288
85 90 95	
ctg gag gag ccg gtg aac gtc tcc agc cac gtc cac acg gtc acc ctg Leu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu	336

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105

110

ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act		384	
Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr			
115	120	125	
ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct		432	
Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro			
130	135	140	
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca		480	
Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala			
145	150	155	160
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt		528	
Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg			
165	170	175	
gac gac atg ctg tgt gcc ggg aac acc cgg agg gac tca tgc cag ggc		576	
Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly			
180	185	190	
gac tcc gga ggg ccc ctg gtg tgc aag gtg aat ggc acc tgg ctg cag		624	
Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln			
195	200	205	
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac cgg cct		672	
Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro			
210	215	220	
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat		720	
Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr			
225	230	235	240
gtc ccc aaa aag ccg		735	
Val Pro Lys Lys Pro			
245			

&lt;210&gt; 2

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2

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Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser		
20	25	30

Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro		
35	40	45

Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His

50

55

60

Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
65 70 75 80

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 3  
<211> 40  
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Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser  
1 5 10

aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg 96  
Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met  
15 20 25 30

cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gca 144  
His Phe Cys Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala  
35 40 45

gcg cac tgc gtg gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg 192  
Ala His Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val  
50 55 60

caa ctg cgg gag cag cac ctc tac tac cag gac cag ctg ctg ccg gtc 240  
Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val  
65 70 75

agc agg atc atc gtg cac cca cag ttc tac acc gcc cag atc gga gcg 288  
Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala  
80 85 90

gac atc gcc ctg ctg gag ctg gag gag ccg gtg aac gtc tcc agc cac 336  
Asp Ile Ala Leu Leu Glu Leu Glu Pro Val Asn Val Ser Ser His  
95 100 105 110

gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc ccg ggg 384  
Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly  
115 120 125

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atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg 130 135 140	432
ctc cca ccg cca ttt cct ctg aag cag gtg aag gtc ccc ata atg gaa Leu Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu 145 150 155	480
aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp 160 165 170	528
gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cgg Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg 175 180 185 190	576
agg gac tca tgc cag ggc gac tcc gga ggg ccc ctg gtg tgc aag gtg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val 195 200 205	624
aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys 210 215 220	672
gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu 225 230 235	720
gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt Asp Trp Ile His His Tyr Val Pro Lys Lys Pro 240 245	771
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Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe 20 25 30	
Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His 35 40 45	
Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu 50 55 60	
Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg 65 70 75 80	

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Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile  
85 90 95

Ala Leu Leu Glu Leu Glu Glu Pro Val Asn Val Ser Ser His Val His  
100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
180 185 190

Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
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27

<210> 8

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<211> 771  
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<213> *Homo sapiens*

<220>  
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agg gac tca tgc cag ggc gac tcc gga ggg ccc ctg gtg tgc aag gtg 624  
 Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val  
 195 200 205

aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt 672  
 Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys  
 210 215 220

gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg 720  
 Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu  
 225 230 235

gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt 771  
 Asp Trp Ile His His Tyr Val Pro Lys Lys Pro  
 240 245

<210> 9  
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<212> PRT  
<213> Homo sapiens

<400> 9

Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp  
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Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe  
 20 25 30

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His  
 35 40 45

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu  
 50 55 60

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg  
 65 70 75 80

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile  
 85 90 95

Ala Leu Leu Glu Leu Glu Pro Val Lys Val Ser Ser His Val His  
 100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
 115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
 130 135 140

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Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
 145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
 165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
 180 185 190

Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
 195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
 210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
 225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
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agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc 96  
 Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Ser  
 20 25 30

ctc atc cac ccc cag tgg gtg ctg acc gca gcg cac tgc gtg gga ccg 144  
 Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
 35 40 45

gac gtc aag gat ctg gcc ctc agg gtg caa ctg cggtt gag cag cac 192  
 Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
 50 55 60

ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac 240  
 Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His

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65	70	75	80	
cca cag ttc tac acc gcc cag atc gga gcg gac atc gcc ctg ctg gag Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu	85	90	95	288
ctg gag gag ccg gtg aag gtc tcc agc cac gtc cac acg gtc acc ctg Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu	100	105	110	336
ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr	115	120	125	384
ggc tgg ggc gat gtg gac aat gat gag ccg ctc cca ccg cca ttt cct Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro	130	135	140	432
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala	145	150	155	160
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg	165	170	175	528
gac gac atg ctg tgt gcc ggg aac acc cgg agg gac tca tgc cag ggc Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly	180	185	190	576
gac tcc gga ggg ccc ctg gtg tgc aag gtg aat ggc acc tgg ctg cag Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln	195	200	205	624
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac cgg cct Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro	210	215	220	672
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr	225	230	235	240
gtc ccc aaa aag ccg Val Pro Lys Lys Pro 245				735

<210> 11  
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<212> PRT  
<213> Homo sapiens

<400> 11

Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
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Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser

20

25

30

Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
35 40 45

Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
50 55 60

Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
65 70 75 80

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

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<213> Artificial Sequence

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gtccggtccc acgcacgccc cggcggtcag cac 33

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Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met 96  
15 20 25 30

cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gcc  
His Phe Cys Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala 144

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35

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gct gct tgc gtc gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtc	192
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caa ctg cgg gag cag cac ctc tac tac cag gac cag ctg ctg cgg gtc	240
Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val	
65 70 75	
agc agg atc atc gtc cac cca cag ttc tac acc gcc cag atc gga gct	288
Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala	
80 85 90	
gac atc gcc ctg ctg gag ctg gag gag cgg gtc aag gtc tcc agc cac	336
Asp Ile Ala Leu Leu Glu Leu Glu Pro Val Lys Val Ser Ser His	
95 100 105 110	
gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc cgg ggg	384
Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly	
115 120 125	
atg ccg tgc tgg gtc act ggc tgg ggc gat gtc gac aat gat gag cgc	432
Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg	
130 135 140	
ctc cca ccg cca ttt cct ctg aag cag gtc aag gtc ccc ata atg gaa	480
Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu	
145 150 155	
aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac	528
Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp	
160 165 170	
gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cgg	576
Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg	
175 180 185 190	
agg gac tca tgc cag ggc gac tcc gga ggg ccc ctg gtg tgc aag gtc	624
Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val	
195 200 205	
aat ggc acc tgg ctg cag gcg ggc gtc agc tgg ggc gag ggc tgt	672
Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys	
210 215 220	
gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg	720
Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu	
225 230 235	
gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt	771
Asp Trp Ile His His Tyr Val Pro Lys Lys Pro	
240 245	

<210> 21  
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<212> PRT  
<213> Homo sapiens

34506104.ST25.txt

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1 5 10 15

Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe  
20 25 30

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala Ala  
35 40 45

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu  
50 55 60

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg  
65 70 75 80

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile  
85 90 95

Ala Leu Leu Glu Leu Glu Glu Pro Val Lys Val Ser Ser His Val His  
100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
180 185 190

Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
210 215 220

34506104.ST25.txt

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
245

<210> 22  
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<212> DNA  
<213> *Homo sapiens*

<220>  
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<222> (7)..(753)  
<223>

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      1          5           10

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aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg      96
Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met
15          20          25          30

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cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gca 144  
 His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala  
 35 40 45

gcg cac tgc gta gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg 192  
 Ala His Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val  
           50              55              60

caa ctg cgg gag cag cac ctc tac tac cag gac cag ctg ctg ccg gtc  
Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val  
65 70 75

```

agc agg atc atc gtg cac cca cag ttc tac acc gcc cag atc gga gcg      288
Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala
          80           85           90

```

```

gca atc gcc ctg ctg gag ctg gag gag ccg gtg aag gtc tcc agc cac      336
Ala Ile Ala Leu Leu Glu Leu Glu Glu Pro Val Lys Val Ser Ser His
95          100           105           110

```

gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc ccg ggg 384  
Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly  
115 120 125

atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc 432  
 Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg  
           130              135              140

ctc cca ccg cca ttt cct ctg aag cag gtg aag gtc ccc ata atg gaa 480  
 Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu  
           145              150              155

## 34506104.ST25.txt

aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp 160 165 170	528
gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cgg Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg 175 180 185 190	576
agg gac tca tgc cag ggc gac tcc gga ggg ccc ctg gtg tgc aag gtg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val 195 200 205	624
aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys 210 215 220	672
gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu 225 230 235	720
gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt Asp Trp Ile His His Tyr Val Pro Lys Lys Pro 240 245	771
<210> 23	
<211> 249	
<212> PRT	
<213> Homo sapiens	
<400> 23	
Leu Glu Lys Arg Ile Val Gly Gln Glu Ala Pro Arg Ser Lys Trp 1 5 10 15	
Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe 20 25 30	
Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His 35 40 45	
Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu 50 55 60	
Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg 65 70 75 80	
Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Ala Ile 85 90 95	
Ala Leu Leu Glu Leu Glu Glu Pro Val Lys Val Ser Ser His Val His 100 105 110	

34506104.ST25.txt

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
180 185 190

Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
245

<210> 24  
<211> 771  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (7)..(753)  
<223>

<400> 24  
gggcccc ctc gag aaa aga atc gtc ggg ggt cag gag gcc ccc agg agc 48  
Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser  
1 5 10

aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg 96  
Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met  
15 20 25 30

cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gca 144

## 34506104.ST25.txt

His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala			
35	40	45	
gcg cac tgc gtg gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg		192	
Ala His Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val			
50	55	60	
caa ctg cgg gag cag cac ctc tac cag gac cag ctg ctg ccg gtc		240	
Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val			
65	70	75	
agc agg atc atc gtg cac cca cag ttc tac acc gcc cag atc gga gcg		288	
Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala			
80	85	90	
gac atc gcc ctg ctg gag ctg gag gag ccg gtg aag gtc tcc agc cac		336	
Asp Ile Ala Leu Leu Glu Leu Glu Pro Val Lys Val Ser Ser His			
95	100	105	110
gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc ccg ggg		384	
Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly			
115	120	125	
atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc		432	
Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg			
130	135	140	
ctc cca ccg cca ttt cct ctg aag cag gtg aag gtc ccc ata atg gaa		480	
Leu Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu			
145	150	155	
aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac		528	
Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp			
160	165	170	
gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cgg		576	
Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg			
175	180	185	190
agg gac tca tgt caa ggc gac gcc ggc gga cct ctg gtg tgc aag gtg		624	
Arg Asp Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val			
195	200	205	
aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt		672	
Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys			
210	215	220	
gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg		720	
Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu			
225	230	235	
gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt		771	
Asp Trp Ile His His Tyr Val Pro Lys Lys Pro			
240	245		

<210> 25  
<211> 249  
<212> PRT

## 34506104.ST25.txt

&lt;213&gt; Homo sapiens

&lt;400&gt; 25

Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp  
1 5 10 15

Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe  
20 25 30

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His  
35 40 45

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu  
50 55 60

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg  
65 70 75 80

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile  
85 90 95

Ala Leu Leu Glu Leu Glu Glu Pro Val Lys Val Ser Ser His Val His  
100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
180 185 190

Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
210 215 220

34506104.ST25.txt

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
245

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<210> 26
<211> 771
<212> DNA
<213> Homo sapiens
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<220>  
<221> CDS  
<222> (7) .. (753)  
<223>

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<400> 26
ggcccc ctc gag aaa aga atc gtc ggg ggt cag gag gcc ccc agg agc      48
      Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser
      1           5           10

```

```

aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg      96
Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met
15          20          25          30

```

cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gca 144  
 His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala  
           35                40                45

gcg cac tgc gtg gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg  
 Ala His Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val  
 50 55 60

caa ctg cgg gag cag cac ctc tac tac cag gac cag ctg ctg ccg gtc  
 Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val  
       65                 70                 75

```

agc agg atc atc gtg cac cca cag ttc tac acc gcc cag atc gga gcg      288
Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala
          80           85           90

```

gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc ccg ggg 384  
 Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly  
                   115              120                  125

atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc 432  
 Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg  
           130              135              140

ctc cca ccg cca ttt cct ctg aag cag gtc ccc ata atg gaa 480  
 Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu

## 34506104.ST25.txt

145

150

155

528

aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac  
Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp  
160 165 170

576

gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cg  
Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg  
175 180 185 190

624

agg gac tca tgc caa gga gac gcc ggc gga cca ctg gtg tgc aag gtg  
Arg Asp Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val  
195 200 205

672

aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt  
Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys  
210 215 220

720

gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg  
Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu  
225 230 235

771

gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt  
Asp Trp Ile His His Tyr Val Pro Lys Lys Pro  
240 245

&lt;210&gt; 27

&lt;211&gt; 249

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 27

Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp  
1 5 10 15

Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe  
20 25 30

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His  
35 40 45

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu  
50 55 60

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg  
65 70 75 80

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile  
85 90 95

Ala Leu Leu Glu Leu Glu Glu Pro Val Lys Val Ser Ser His Val His

100

105

110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
 115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
 130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
 145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
 165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
 180 185 190

Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
 195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
 210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
 225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
 245

<210> 28  
 <211> 735  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(735)  
 <223>

<400> 28  
 atc gtc ggg ggt cag gag gcc ccc agg agc aag tgg ccc tgg cag gtg 48  
 Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
 1 5 10 15

agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc 96  
 Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser  
 20 25 30

## 34506104.ST25.txt

ctc atc cac ccc cag tgg gtg ctg acc gcc gcg gcg tgc gtg gga ccg Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala Ala Cys Val Gly Pro	144
35 40 45	
gac gtc aag gat ctg gcc ctc agg gtg caa ctg cggtt gag cag cac Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His	192
50 55 60	
ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His	240
65 70 75 80	
cca cag ttc tac acc gcc cag atc gga gcg gac atc gcc ctg ctg gag Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu	288
85 90 95	
ctg gag gag ccg gtg aag gtc tcc agc cac gtc cac acg gtc acc ctg Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu	336
100 105 110	
ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr	384
115 120 125	
ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro	432
130 135 140	
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala	480
145 150 155 160	
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg	528
165 170 175	
gac gac atg ctg tgt gcc ggg aac acc ccg agg gac tca tgc cag ggc Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly	576
180 185 190	
gac tcc gga ggg ccc ctg gtg tgc aag gtg aat ggc acc tgg ctg cag Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln	624
195 200 205	
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac ccg cct Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro	672
210 215 220	
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr	720
225 230 235 240	
gtc ccc aaa aag ccg Val Pro Lys Lys Pro	735
245	

<210> 29  
<211> 245

34506104.ST25.txt

<212> PRT  
<213> Homo sapiens

<400> 29

Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser  
20 25 30

Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala Ala Cys Val Gly Pro  
35 40 45

Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
50 55 60

Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
65 70 75 80

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

34506104.ST25.txt

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 30  
<211> 735  
<212> DNA  
<213> *Homo sapiens*

<220>  
<221> CDS  
<222> (1)..(735)  
<223>

<400> 30 atc gtc ggg ggt cag gag gcc ccc agg agc aag tgg ccc tgg cag gtg 48  
Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

```

agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc 96
Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser
          20           25           30

```

ctc atc cac ccc cag tgg gtg ctg acc gca gcg cac tgc gtg gga ccg 144  
 Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
                  35                40                45

```

gac gtc aag gat ctg gcc ctc agg gtg caa ctg cgg gag cag cac
Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His
      50          55          60

```

ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac  
 Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
 65 70 75 80

cca cag ttc tac acc gcc cag atc gga gcg gca atc gcc ctg ctg gag 288  
 Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Ala Ile Ala Leu Leu Glu  
                   85                  90                  95

ctg gag gag ccg gtg aag gtc tcc agc cac gtc cac acg gtc acc ctg 336  
 Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu  
                   100              105              110

ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act 384  
 Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
           115          120          125

ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct 432  
 Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
     130             135             140

ctg aaq caq gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca 4800

## 34506104.ST25.txt

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala			
145	150	155	160
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgcc atc gtc cgt			528
Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg			
165	170	175	
gac gac atg ctg tgt gcc ggg aac acc cg gagg gac tca tgc cag ggc			576
Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly			
180	185	190	
gac tcc gga ggg ccc ctg gtg tgc aag gtg aat ggc acc tgg ctg cag			624
Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln			
195	200	205	
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac cgg cct			672
Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro			
210	215	220	
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat			720
Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr			
225	230	235	240
gtc ccc aaa aag ccg			735
Val Pro Lys Lys Pro			
245			
<210> 31			
<211> 245 .			
<212> PRT			
<213> Homo sapiens			
<400> 31			
Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val			
1	5	10	15
Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser			
20	25	30	
Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro			
35	40	45	
Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His			
50	55	60	
Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His			
65	70	75	80
Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Ala Ile Ala Leu Leu Glu			
85	90	95	

## 34506104.ST25.txt

Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu  
 100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
 115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
 130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
 145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
 165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
 180 185 190

Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
 195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
 210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
 225 230 235 240

Val Pro Lys Lys Pro  
 245

<210> 32  
<211> 735  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (1)..(735)  
<223>

<400> 32  
atc gtc ggg ggt cag gag gcc ccc agg agc aag tgg ccc tgg cag gtg 48  
Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc 96  
Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser  
20 25 30

## 34506104.ST25.txt

ctc atc cac ccc cag tgg gtg ctg acc gca gcg cac tgc gtg gga ccg Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro 35 40 45	144
gac gtc aag gat ctg gcc ctc agg gtg caa ctg cgg gag cag cac Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His 50 55 60	192
ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His 65 70 75 80	240
cca cag ttc tac acc gcc cag atc gga gcg gac atc gcc ctg ctg gag Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu 85 90 95	288
ctg gag gag ccg gtg aag gtc tcc agc cac gtc cac acg gtc acc ctg Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu 100 105 110	336
ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr 115 120 125	384
ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro 130 135 140	432
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala 145 150 155 160	480
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg 165 170 175	528
gac gac atg ctg tgt gcc ggg aac acc ccg agg gac tca tgt caa ggc Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly 180 185 190	576
gac gcc ggc gga cct ctg gtg tgc aag gtg aat ggc acc tgg ctg cag Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln 195 200 205	624
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac ccg cct Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro 210 215 220	672
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr 225 230 235 240	720
gtc ccc aaa aag ccg Val Pro Lys Lys Pro 245	735

34506104.ST25.txt

<211> 245

<212> PRT

<213> Homo sapiens

<400> 33

Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser  
20 25 30

Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
35 40 45

Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
50 55 60

Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
65 70 75 80

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro

34506104.ST25.txt

210

215

220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 34  
<211> 735  
<212> DNA  
<213> *Homo sapiens*

<220>  
<221> CDS  
<222> (1)..(735)  
<223>

<400> 34  
atc gtc ggg ggt cag gag gcc ccc agg agc aag tgg ccc tgg cag gtg 48  
Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

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agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc 96
Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser
          20           25           30

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ctc atc cac ccc cag tgg gtg ctg acc gca gcg cac tgc gtg gga ccg 144  
 Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
                  35                40                45

gac gtc aag gat ctg gcc ctc agg gtg caa ctg cg<sup>g</sup> gag cag cac      192  
 Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
   50                55                60

ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac  
 Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
 65 70 75 80

cca cag ttc tac acc gcc cag atc gga gcg gac atc gcc ctg ctg gag 288  
 Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
                   85                  90                  95

ctg gag gag ccg gtg aag gtc tcc agc cac gtc cac acg gtc acc ctg 336  
 Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu  
                   100              105              110

ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act 384  
 Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
                   115              120              125

ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct 432  
 Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
 130 135 140

## 34506104.ST25.txt

ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala 145 150 155 160	480
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg 165 170 175	528
gac gac atg ctg tgt gcc ggg aac acc cgg agg gac tca tgc caa gga Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly 180 185 190	576
gac gcc ggc gga cca ctg gtg tgc aag gtg aat ggc acc tgg ctg cag Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln 195 200 205	624
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac cgg cct Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro 210 215 220	672
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr 225 230 235 240	720
gtc ccc aaa aag ccg Val Pro Lys Lys Pro 245	735
<210> 35	
<211> 245	
<212> PRT	
<213> Homo sapiens	
<400> 35	
Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val 1 5 10 15	
Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser 20 25 30	
Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro 35 40 45	
Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His 50 55 60	
Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His 65 70 75 80	
Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu 85 90 95	

34506104.ST25.txt

Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 36

<211> 771

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (7)..(753)

<223>

<400> 36

gggccctc gag aaa aga atc gtc ggg ggt cag gag gcc ccc agg agc  
Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser  
1 5 10

48

aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg  
Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met

96

## 34506104.ST25.txt

15	20	25	30	
cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gcc His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala			45	144
35	40		45	
gcg gcg tgc gtg gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg Ala Ala Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val			60	192
50	55			
caa ctg cgg gag cag cac ctc tac tac cag gac cag ctg ctg ccc gtc Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val			75	240
65	70			
agc agg atc atc gtg cac cca cag ttc tac acc gcc cag atc gga gcg Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala			90	288
80	85			
gac atc gcc ctg ctg gag ctg gag gag ccg gtg aac gtc tcc agc cac Asp Ile Ala Leu Leu Glu Leu Glu Pro Val Asn Val Ser Ser His			110	336
95	100	105		
gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc ccg ggg Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly			125	384
115	120			
atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg			140	432
130	135			
ctc cca ccg cca ttt cct ctg aag cag gtg aag gtc ccc ata atg gaa Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu			155	480
145	150			
aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp			170	528
160	165			
gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cgg Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg			190	576
175	180	185		
agg gac tca tgc cag ggc gac tcc gga ggg ccc ctg gtg tgc aag gtg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val			205	624
195	200			
aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys			220	672
210	215			
gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu			235	720
225	230			
gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt Asp Trp Ile His His Tyr Val Pro Lys Lys Pro			245	771
240				

34506104.ST25.txt

<210> 37  
<211> 249  
<212> PRT  
<213> Homo sapiens

<400> 37

Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp  
1 5 10 15

Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe  
20 25 30

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala Ala  
35 40 45

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu  
50 55 60

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg  
65 70 75 80

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile  
85 90 95

Ala Leu Leu Glu Leu Glu Glu Pro Val Asn Val Ser Ser His Val His  
100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
180 185 190

Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
195 200 205

34506104.ST25.txt

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
245

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<210> 38  
<211> 771  
<212> DNA  
<213> Homo sapiens
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<220>  
<221> CDS  
<222> (7)..(753)  
<223>

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<400> 38
gggcccc ctc gag aaa aga atc gtc ggg ggt cag gag gcc ccc agg agc      48
      Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser
      1           5           10

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```

aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg      96
Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met
15          20          25          30

```

cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tagg gtg ctg acc gca 144  
 His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala  
 35 40 45

gca cac tgc gtg gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg  
 Ala His Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val  
 50 55 60

caa ctg cg<sup>g</sup> gag cag cac ctc tac tac cag gac cag ctg ctg ccg gtc  
 Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val  
           65             70             75

agc agg atc atc gtg cac cca cag ttc tac acc gcc cag atc gga gcg 288  
 Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala  
 80 85 90

```

gca atc gcc ctg ctg gag ctg gag gag ccg gtg aac gtc tcc agc cac      336
Ala Ile Ala Leu Leu Glu Leu Glu Glu Pro Val Asn Val Ser Ser His
95          100           105           110

```

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atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc      432
Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg
          130           135           140

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## 34506104.ST25.txt

ctc cca ccg cca ttt cct ctg aag cag gtc aag gtc ccc ata atg gaa 480  
 Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu  
 145 150 155

aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac 528  
 Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp  
 160 165 170

gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cgg 576  
 Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg  
 175 180 185 190

agg gac tca tgc cag ggc gac tcc gga ggg ccc ctg gtg tgc aag gtg 624  
 Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val  
 195 200 205

aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt 672  
 Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys  
 210 215 220

gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg 720  
 Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu  
 225 230 235

gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt 771  
 Asp Trp Ile His His Tyr Val Pro Lys Lys Pro  
 240 245

<210> 39  
<211> 249  
<212> PRT  
<213> Homo sapiens

<400> 39

Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp  
 1 5 10 15

Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe  
 20 25 30

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His  
 35 40 45

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu  
 50 55 60

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg  
 65 70 75 80

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Ala Ile  
 85 90 95

34506104.ST25.txt

Ala Leu Leu Glu Leu Glu Glu Pro Val Asn Val Ser Ser His Val His  
100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
180 185 190

Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
245

<210> 40  
<211> 771  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (7)..(753)  
<223>

<400> 40  
gggcccc ctc gag aaa aga atc gtc ggg ggt cag gag gcc ccc agg agc 48  
Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser  
1 5 10

aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg 96

34506104.ST25.txt

Lys	Trp	Pro	Trp	Gln	Val	Ser	Leu	Arg	Val	His	Gly	Pro	Tyr	Trp	Met
15				20					25					30	
cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gca															144
His Phe Cys Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala															
35 40 45															
gcg cac tgc gtg gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg															192
Ala His Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val															
50 55 60															
caa ctg cgg gag cag cac ctc tac tac cag gac cag ctg ctg ccg gtc															240
Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val															
65 70 75															
agc agg atc atc gtg cac cca cag ttc tac acc gcc cag atc gga gcg															288
Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala															
80 85 90															
gac atc gcc ctg ctg gag ctg gag gag ccg gtg aac gtc tcc agc cac															336
Asp Ile Ala Leu Leu Glu Leu Glu Pro Val Asn Val Ser Ser His															
95 100 105 110															
gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc ccg ggg															384
Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly															
115 120 125															
atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc															432
Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg															
130 135 140															
ctc cca ccg cca ttt cct ctg aag cag gtg aag gtc ccc ata atg gaa															480
Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu															
145 150 155															
aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac															528
Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp															
160 165 170															
gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc ccg															576
Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg															
175 180 185 190															
agg gac tca tgt caa ggc gac gcc ggc gga cct ctg gtg tgc aag gtg															624
Arg Asp Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val															
195 200 205															
aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt															672
Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys															
210 215 220															
gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg															720
Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu															
225 230 235															
gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gccgtcgt															771
Asp Trp Ile His His Tyr Val Pro Lys Lys Pro															
240 245															

34506104.ST25.txt

<210> 41  
<211> 249  
<212> PRT  
<213> Homo sapiens

<400> 41

Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp  
1 5 10 15

Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe  
20 25 30

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His  
35 40 45

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu  
50 55 60

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg  
65 70 75 80

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile  
85 90 95

Ala Leu Leu Glu Leu Glu Pro Val Asn Val Ser Ser His Val His  
100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
180 185 190

Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
195 200 205

## 34506104.ST25.txt

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
 210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
 225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
 245

<210> 42  
 <211> 771  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (7)..(753)  
 <223>

<400> 42		
gggcccc ctc gag aaa aga atc gtc ggg ggt cag gag gcc ccc agg agc		48
Leu Glu Lys Arg Ile Val Gly Gly Gln Glu Ala Pro Arg Ser		
1 5 10		
aag tgg ccc tgg cag gtg agc ctg aga gtc cac ggc cca tac tgg atg		96
Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met		
15 20 25 30		
cac ttc tgc ggg ggc tcc ctc atc cac ccc cag tgg gtg ctg acc gca		144
His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala		
35 40 45		
gcg cac tgc gtg gga ccg gac gtc aag gat ctg gcc gcc ctc agg gtg		192
Ala His Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val		
50 55 60		
caa ctg cgg gag cag cac ctc tac tac cag gac cag ctg ctg ccg gtc		240
Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val		
65 70 75		
agc agg atc atc gtc cac cca cag ttc tac acc gcc cag atc gga gcg		288
Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala		
80 85 90		
gac atc gcc ctg ctg gag ctg gag gag ccg gtg aac gtc tcc agc cac		336
Asp Ile Ala Leu Leu Glu Leu Glu Pro Val Asn Val Ser Ser His		
95 100 105 110		
gtc cac acg gtc acc ctg ccc cct gcc tca gag acc ttc ccc ccg ggg		384
Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly		
115 120 125		
atg ccg tgc tgg gtc act ggc tgg ggc gat gtg gac aat gat gag cgc		432
Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg		

## 34506104.ST25.txt

130

135

140

ctc cca ccg cca ttt cct ctg aag cag gtg aag gtc ccc ata atg gaa	480
Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu	
145 150 155	
aac cac att tgt gac gca aaa tac cac ctt ggc gcc tac acg gga gac	528
Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp	
160 165 170	
gac gtc cgc atc gtc cgt gac gac atg ctg tgt gcc ggg aac acc cgg	576
Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg	
175 180 185 190	
agg gac tca tgc caa gga gac gcc ggc gga cca ctg gtg tgc aag gtg	624
Arg Asp Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val	
195 200 205	
aat ggc acc tgg ctg cag gcg ggc gtg gtc agc tgg ggc gag ggc tgt	672
Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys	
210 215 220	
gcc cag ccc aac cgg cct ggc atc tac acc cgt gtc acc tac tac ttg	720
Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu	
225 230 235	
gac tgg atc cac cac tat gtc ccc aaa aag ccg tgaagcggcc gcccgtcgt	771
Asp Trp Ile His His Tyr Val Pro Lys Lys Pro	
240 245	

&lt;210&gt; 43

&lt;211&gt; 249

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 43

Leu Glu Lys Arg Ile Val Gly Gln Glu Ala Pro Arg Ser Lys Trp	
1 5 10 15	

Pro Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe	
20 25 30	

Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His	
35 40 45	

Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu	
50 55 60	

Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg	
65 70 75 80	

Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile

Ala Leu Leu Glu Leu Glu Glu Pro Val Asn Val Ser Ser His Val His  
 100 105 110

Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro  
 115 120 125

Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro  
 130 135 140

Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His  
 145 150 155 160

Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val  
 165 170 175

Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp  
 180 185 190

Ser Cys Gln Gly Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly  
 195 200 205

Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln  
 210 215 220

Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp  
 225 230 235 240

Ile His His Tyr Val Pro Lys Lys Pro  
 245

<210> 44  
 <211> 735  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(735)  
 <223>

<400> 44  
 atc gtc ggg ggt cag gag gcc ccc agg agc aag tgg ccc tgg cag gtg  
 Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
 1 5 10 15

## 34506104.ST25.txt

agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser	96
20 25 30	
ctc atc cac ccc cag tgg gtg ctg acc gcc gcg tgc gtg gga ccg Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala Ala Cys Val Gly Pro	144
35 40 45	
gac gtc aag gat ctg gcc gcc ctc agg gtg caa ctg cggt gag cag cac Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His	192
50 55 60	
ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His	240
65 70 75 80	
cca cag ttc tac acc gcc cag atc gga gcg gac atc gcc ctg ctg gag Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu	288
85 90 95	
ctg gag gag ccg gtg aac gtc tcc agc cac gtc cac acg gtc acc ctg Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu	336
100 105 110	
ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr	384
115 120 125	
ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro	432
130 135 140	
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala	480
145 150 155 160	
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg	528
165 170 175	
gac gac atg ctg tgt gcc ggg aac acc ccg agg gac tca tgc cag ggc Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly	576
180 185 190	
gac tcc gga ggg ccc ctg gtg tgc aag gtg aat ggc acc tgg ctg cag Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln	624
195 200 205	
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac ccg cct Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro	672
210 215 220	
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr	720
225 230 235 240	
gtc ccc aaa aag ccg Val Pro Lys Lys Pro	735
245	

<210> 45  
<211> 245  
<212> PRT  
<213> Homo sapiens

<400> 45

Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser  
20 25 30

Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala Ala Cys Val Gly Pro  
35 40 45

Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
50 55 60

Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
65 70 75 80

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

34506104.ST25.txt

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 46  
<211> 735  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (1)..(735)  
<223>

<400> 46  
 atc gtc ggg ggt cag gag gcc ccc agg agc aag tgg ccc tgg cag gtg 48  
 Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
 1 5 10 15  
  
 agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc 96  
 Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser  
 20 25 30  
  
 ctc atc cac ccc cag tgg gtg ctg acc gca gcg cac tgc gtg gga ccg 144  
 Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
 35 40 45  
  
 gac gtc aag gat ctg gcc gcc ctc agg gtg caa ctg cgg gag cag cac 192  
 Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
 50 55 60  
  
 ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc atc gtg cac 240  
 Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
 65 70 75 80  
  
 cca cag ttc tac acc gcc cag atc gga gcg gca atc gcc ctg ctg gag 288  
 Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Ala Ile Ala Leu Leu Glu  
 85 90 95  
  
 ctg gag gag ccg gtg aac gtc tcc agc cac gtc cac acg gtc acc ctg 336  
 Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu  
 100 105 110  
  
 ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act 384  
 Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
 115 120 125  
  
 ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct 432

## 34506104.ST25.txt

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro			
130	135	140	
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca			480
Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala			
145	150	155	160
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgccatcgtc			528
Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg			
165	170	175	
gac gac atg ctg tgt gcc ggg aac acc cg agg gac tca tgc cag ggc			576
Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly			
180	185	190	
gac tcc gga ggg ccc ctg gtg tgc aag gtg aat ggc acc tgg ctg cag			624
Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln			
195	200	205	
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac cgg cct			672
Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro			
210	215	220	
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat			720
Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr			
225	230	235	240
gtc ccc aaa aag ccg			735
Val Pro Lys Lys Pro			
245			
<210> 47			
<211> 245			
<212> PRT			
<213> Homo sapiens			
<400> 47			
Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val			
1	5	10	15
Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser			
20	25	30	
Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro			
35	40	45	
Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His			
50	55	60	
Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His			
65	70	75	80

34506104.ST25.txt

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Ala Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 48  
<211> 735  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (1)...(735)  
<223>

<400> 48  
atc gtc ggg ggt cag gag gcc ccc agg agc aag tgg ccc tgg cag gtg  
Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

48

## 34506104.ST25.txt

agc ctg aga gtc cac ggc cca tac tgg atg cac ttc tgc ggg ggc tcc Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser 20 25 30	96
ctc atc cac ccc cag tgg gtg ctg acc gca gcg cac tgc gtg gga ccg Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro 35 40 45	144
gac gtc aag gat ctg gcc gcc ctc agg gtg caa ctg cggt gag cag cac Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His 50 55 60	192
ctc tac tac cag gac cag ctg ctg ccg gtc agc agg atc atc gtg cac Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His 65 70 75 80	240
cca cag ttc tac acc gcc cag atc gga gcg gac atc gcc ctg ctg gag Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu 85 90 95	288
ctg gag gag ccg gtg aac gtc tcc agc cac gtc cac acg gtc acc ctg Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu 100 105 110	336
ccc cct gcc tca gag acc ttc ccc ccg ggg atg ccg tgc tgg gtc act Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr 115 120 125	384
ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro 130 135 140	432
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala 145 150 155 160	480
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg 165 170 175	528
gac gac atg ctg tgt gcc ggg aac acc ccg agg gac tca tgt caa ggc Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly 180 185 190	576
gac gcc ggc gga cct ctg gtg tgc aag gtg aat ggc acc tgg ctg cag Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln 195 200 205	624
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac ccg cct Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro 210 215 220	672
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr 225 230 235 240	720
gtc ccc aaa aag ccg Val Pro Lys Lys Pro	735

<210> 49  
<211> 245  
<212> PRT  
<213> Homo sapiens

<400> 49

Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Ser  
20 25 30

Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
35 40 45

Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
50 55 60

Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
65 70 75 80

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln

34506104.ST25.txt

195

200

205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
 225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 50  
<211> 735  
<212> DNA  
<213> *Homo sapiens*

<220>  
<221> CDS  
<222> (1)..(735)  
<223>

## 34506104.ST25.txt

ggc tgg ggc gat gtg gac aat gat gag cgc ctc cca ccg cca ttt cct	432
Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro	
130 135 140	
ctg aag cag gtg aag gtc ccc ata atg gaa aac cac att tgt gac gca	480
Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala	
145 150 155 160	
aaa tac cac ctt ggc gcc tac acg gga gac gac gtc cgc atc gtc cgt	528
Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg	
165 170 175	
gac gac atg ctg tgt gcc ggg aac acc cggttggg gac tca tgc caa gga	576
Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly	
180 185 190	
gac gcc ggc gga cca ctg gtg tgc aag gtg aat ggc acc tgg ctg cag	624
Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln	
195 200 205	
gcg ggc gtg gtc agc tgg ggc gag ggc tgt gcc cag ccc aac cgg cct	672
Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro	
210 215 220	
ggc atc tac acc cgt gtc acc tac tac ttg gac tgg atc cac cac tat	720
Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr	
225 230 235 240	
gtc ccc aaa aag ccg	735
Val Pro Lys Lys Pro	
245	

<210> 51  
<211> 245  
<212> PRT  
<213> Homo sapiens

<400> 51

Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val  
1 5 10 15

Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser  
20 25 30

Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro  
35 40 45

Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His  
50 55 60

Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His  
65 70 75 80

34506104.ST25.txt

Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu  
85 90 95

Leu Glu Glu Pro Val Asn Val Ser Ser His Val His Thr Val Thr Leu  
100 105 110

Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr  
115 120 125

Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro  
130 135 140

Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala  
145 150 155 160

Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg  
165 170 175

Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly  
180 185 190

Asp Ala Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln  
195 200 205

Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro  
210 215 220

Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr  
225 230 235 240

Val Pro Lys Lys Pro  
245

<210> 52

<211> 275

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (3)..(3)

<223> Beta I and Beta II are N at this residue

<220>

<221> VARIANT

<222> (23)..(23)

<223> Beta I and Beta II are G at this residue

<220>  
<221> VARIANT  
<222> (28)...(28)  
<223> Beta I and Beta II are R at this residue

<220>  
<221> VARIANT  
<222> (29)...(29)  
<223> Beta I and Beta II are V at this residue

<220>  
<221> VARIANT  
<222> (51)...(53)  
<223> Beta I and Beta II are HGP at these residues

<220>  
<221> VARIANT  
<222> (76)...(76)  
<223> Beta I and Beta II are V at this residue

<220>  
<221> VARIANT  
<222> (85)...(85)  
<223> Beta I and Beta II are A at this residue

<220>  
<221> VARIANT  
<222> (115)...(116)  
<223> Beta I and Beta II are TA at these residues

<220>  
<221> VARIANT  
<222> (118)...(118)  
<223> Beta I and Beta II are I at this residue

<220>  
<221> VARIANT  
<222> (132)...(132)  
<223> Beta II is K at this residue

<220>  
<221> VARIANT  
<222> (133)...(133)  
<223> Beta I and Beta II are V at this residue

<220>  
<221> VARIANT

34506104.ST25.txt

<222> (136)..(136)  
<223> Beta I and Beta II are H at this residue

<220>  
<221> VARIANT  
<222> (141)..(141)  
<223> Beta I and Beta II are T at this residue

<220>  
<221> VARIANT  
<222> (168)..(168)  
<223> Beta I and Beta II are R at this residue

<220>  
<221> VARIANT  
<222> (204)..(204)  
<223> Beta I and Beta II are V at this residue

<220>  
<221> VARIANT  
<222> (215)..(216)  
<223> Beta I and Beta II are TR at these residues

<220>  
<221> VARIANT  
<222> (221)..(221)  
<223> Beta I and Beta II are Q at this residue

<220>  
<221> VARIANT  
<222> (245)..(245)  
<223> Beta I and Beta II are G at this residue

<400> 52

Met Leu Ser Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala  
1 5 10 15

Tyr Ala Ala Pro Ala Pro Val Gln Ala Leu Gln Gln Ala Gly Ile Val  
20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu  
35 40 45

Arg Val Arg Asp Arg Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile  
50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Leu Gly Pro Asp Val

## 34506104.ST25.txt

65

70

75

80

Lys Asp Leu Ala Thr Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr  
85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln  
100 105 110

Phe Tyr Ile Ile Gln Thr Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu  
115 120 125

Glu Pro Val Asn Ile Ser Ser Arg Val His Thr Val Met Leu Pro Pro  
130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp  
145 150 155 160

Gly Asp Val Asp Asn Asp Glu Pro Leu Pro Pro Pro Phe Pro Leu Lys  
165 170 175

Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr  
180 185 190

His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Ile Arg Asp Asp  
195 200 205

Met Leu Cys Ala Gly Asn Ser Gln Arg Asp Ser Cys Lys Gly Asp Ser  
210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly  
225 230 235 240

Val Val Ser Trp Asp Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile  
245 250 255

Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro  
260 265 270

Lys Lys Pro  
275